ĝ@

#17



PCT/

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:18

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\05192003\J019980B.raw

```
3 <110> APPLICANT: Berthelsen, Jens
               Toma, Salvatore
       5
               Isacchi, Antonella
 W-->
       6 <120> TITLE OF INVENTION: Tankyrase Homolog Protein (THP), Nucleic Acids, And Methods
 Related To
 ₩--> 7
               The Same
 W--> 8 <130> FILE REFERENCE: PHRM0373
W--> 9 <140> CURRENT APPLICATION NUMBER: 10/019,980B
C--> 10 <141> CURRENT FILING DATE: 2003-01-06
      11 <150> PRIOR APPLICATION NUMBER: 09/350,982
      12 <151> PRIOR FILING DATE: 1999-07-09
     13 <150> PRIOR APPLICATION NUMBER: PCT/EP00/06609
      14 <151> PRIOR FILING DATE: 2000-07-03
W--> 15 <160> NUMBER OF SEQ ID: 10
     16 <170> SOFTWARE: PatentIn version 3.1
W--> 17 <210> SEQ ID NO: 1
     18 <211> LENGTH: 20
     19 <212> TYPE: DNA
     20 <213> ORGANISM: Artificial Sequence
W--> 21 <220> FEATURE:
     22 <223> OTHER INFORMATION: PCR Primers
     24 <400> SEQUENCE: 1
     25 gagtatttgt tacaacacgg
                                                                                20
     28 <210> SEQ ID NO: 2
     29 <211> LENGTH: 18
     30 <212> TYPE: DNA
     31 <213> ORGANISM: Artificial Sequence
W--> 32 <220> FEATURE:
     33 <223> OTHER INFORMATION: PCR Primers
     35 <400> SEQUENCE: 2
     36 aatctccttc agctcctt
                                                                                18
     39 <210> SEQ ID NO: 3
     40 <211> LENGTH: 4512
     41 <212> TYPE: DNA
     42 <213> ORGANISM: Homo sapiens
W--> 43 <220> FEATURE:
     44 <221> NAME/KEY: misc_feature
     45 <222> LOCATION: (1124)..(1124)
    46 <223> OTHER INFORMATION: N is any nucleic acid
W--> 48 <220> FEATURE:
    49 <221> NAME/KEY: misc feature
    50 <222> LOCATION: (2672)..(2672)
    51 <223> OTHER INFORMATION: N is any nucleic acid
```

53 <400> SEQUENCE: 3

PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:18

Input Set : A:\PTO.VSK.txt

	54	gaattccgcg	gcggccagga	tcatgtcggg	tegeegetge	accaacaaaa	gagcggcctg	60
	50	cycyaycycc	geggeegagg	ccqtqqaqcc	aaccacccaa	gagetattea	aggestages	120
	50	caacygygac	grggaacgag	tcaagaggct	ggtgacgcct	gagaaggtga	202000000	180
	00	cacggcgggc	ayyaaatcca	ccccqctqca	CCtcqccqca	aattttaaac	dussauscut	240
	02	agityaatat	Ligottcaga	atddtdcaaa	tatecaaaca	catastasta	aaaaaattat	300
	04	CCCCCCCCC	aalycatyct	cttttaatca	tactaaaata	atcastctcc	++++~~~~	360
	66	tggtgcagac	cccaatgctc	gagataattg	gaattatact	cctctccata	aagetggaca	
	68	taaaggaaag	attgatgttt	gcattgtgct	gttacagcat	ggagetgagg	aayctycaat	420
	70	aaatacagat	ggaaggacag	cattggattt	agragatora	totocoasa	caaccatecg	480
	72	tggtgaatat	aagaaagatg	aactcttaga	aagtgccag	actoccaaag	cagigottac	540
	74	gatggctcta	ctcacaccat	taaatgtcaa	ctaccacaca	agreggeaarg	aagaaaaaat	600
	76	tccattacat	ttggcagcag	gatataacag	antaaanatt	agregarege	gaaagtcaac	660
	78	tggagctgat	gtccatgcta	aagataaagg	tastataata	gracagergr	tactgcaaca	720
	80	ttatggtcat	tatgaagtaa	ctgaactttt	gatcaaggca	ccattacaca	atgcctgttc	780
	82	ggacttgtgg	caattcactc	ctcttcatga	ggccaagcat	ggtgcctgtg	taaatgcaat	840
	84	ttetettete	ttaagttatg	atacagaga	ggcagcttct	aagaacaggg	ttgaagtatg	900
	86	tatagacttg	actoccacao	gtgcagaccc	aacactgete	aattgtcaca	ataaaagtgc	960
	88	ctcattacta	caagetgeac	cacagttaaa	agaaagatta	gcatatgaat	ttaaaggcca	1020
>	90	ggaaatggtg	aatttcaage	gagaagctga	cgitactcga	atcaaaaaac	atctctctct	1080
	92	atctccatat	CCCaaaage	atcctcaaac	acatgaaaca	gcantgcatt	gtgctgctgc	1140
	94	caatgaaaag	actaaaagaa	agcaaatatg	tgaactgttg	ctaagaaaag	gagcaamcat	1200
	96	tgatrttgtt	accadagaac	tcttgactcc	tetgeacgtg	gcatctgaga	aagctcataa	1260
	98	tcagacttct	ctacacacac	tgaaacatga	agcaaaggtt	aatgctctgg	ataatcttgg	1320
	100	gaggetatogo	tatastasta	ctgcatattg	tggtcatcta	caaacctgcc	gcctactcct	1380
	102	aaatgaaaat	gtagacccca	acattatatc	ccttcagggc	tttactgctt	tacagatggg	1440
	104	cadacaatta	gtacagcaac	cetecaaga	gggtatctca	ttaggtaatt	cagaggcaga	1500
	106	tattcagact	ctggaagetg	caaaggctgg	agatgtcgaa	actgtaaaaa	aactgtgtac	1560
	108	agetagatat	greaacigea	gagacattga	agggcgtcag	tctacaccac	ttcattttgc	1620
	110	tactasacat	aacagagtgt	ccgtggtgga	atatctgcta	cagcatggag	ctgatgtgca	1680
	112	agttggaga	adagrigsco	ttgtaccttt	gcacaatgca	tgttcttatg	gacattatga	1740
		agicycayaa	Citculgita	aacatqqaqc	aqtaqttaat	gtagetgatt	tatoossatt	1800
	T T -	tacaccitia	catgaagcag	caqcaaaaqq	aaaatatgaa	atttqcaaac	ttctactaca	1860
	110	gearggraca	gaccctacaa	aaaaaaacag	ggatggaaat	actcctttgg	atcttottaa	1920
	110	ayaryyayar	acagatattc	aagatctgct	taggggagat	gcagetttge	tagatgetge	1980
	120	caayaagagt	tgtttagcca	gagtgaagaa	gttgtcttct	cctgataatg	taaattgccg	2040
	122	cyatacccaa	ggcagacatt	caacaccttt	acatttagca	actaattata	2+22+++200	2100
	-21	agitglagag	tattigitac	aacacqqaqc	tgatgtgaat	gcccaagaca	aaggaggagt	2160
	120	tattettta	cataatgcag	catcttacgg	acatataaat	gtagcagete	tactaataaa	2220
	120	gracaatyca	rgrattaatq	ccacqqacaa	atgggctttc	acacctttcc	2002200000	2280
	100	ccaaaayyya	cgaacacagc	tttatacttt	gktgctagcc	catagaacta	accepantet	2340
	132	LadadatCay	gaaggacaaa	cacctttaga	tttagtttca	acadataata	tcagcactet	2400
	101	cccyacayca	yccatqcccc	catctgctct	accetettat	tacaagggtg	220+00+00-	2460
	120	rygrgrgaga	agcccaggag	ccactgcaga	tactetetet	tcaggtccat	Ctagggggt	2520
	100	aagcctttct	gcagccagca	qtcttqacaa	cttatctggg	antttttcan	220tatatta	2580
	740	aytayttagt	ccaaqtqqaa	cagagggtgc	ttccaattta	Cacaaaaaa	200++00	2640
	172	agtagattt	aycataactc	aattcgtaag	gnatettgga	cttgaggagg	taataaatat	2700
	777	accigagaga	gaacagatca	ctttqqatqt	attagttgag	atgggggaca	aggagetgaa	2760
	140	yyayattyya	alcaatqctt	atogacatao	gcacaaacta	attagaggag	taaaaaaaa	2820
	140	tattttttgga	caacaaggtc	ttaacccata	tttaactttd	aacacctctc	ataataaaa	2880
	150	aattcttata	gatctgtctc	ctgatgataa	agagtttcag	tctqtqqaqq	aagagatgca	2940
				-	2 2 3	- 2 - 2 - 2 - 2 - 2	gugueged	2740

PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:18

Input Set : A:\PTO.VSK.txt

```
152 aagtacagtt cgagagcaca gagatggagg tcatgcaggt ggaatcttca acagatacaa
                                                                                3000
      154 tattctcaag attcagaagg tttgtaacaa gaaactatgg gaaagataca ctcaccggag
                                                                                3060
      156 aaaagaagtt tetgaagaaa accacaacca tgccaatgaa cgaatgctat ttcatgggtc
                                                                                3120
      158 tccttttgtg aatgcaatta tccacaaagg ctttgatgaa aggcatgcgt acataggtgg
                                                                                3180
      160 tatgtttgga gctggcattt attttgctga aaactcttcc aaaagcaatc aatatgtata
                                                                                3240
      162 tggaattgga ggaggtactg ggtgtccagt tcacaaagac agatcttgtt acatttgcca
                                                                                3300
      164 caggcagctg ctcttttgcc gggtaacctt gggaaagtct ttcctgcagt tcagtgcaat
                                                                                3360
      166 gaaaatggca catteteete caggteatea eteagteaet ggtaggeeca gtgtaaatgg
      168 cctagcatta gctgaatatg ttatttacag aggagaacag gcttatcctg agtatttaat
                                                                                3480
      170 tacttaccag attatgaggc ctgaaggtat ggtcgatgga taaatagtta ttttaagaaa
                                                                                3540
      172 ctaattccac tgaacctaaa atcatcaaag cagcagtggc ctctacgttt tactcctttg
                                                                                3600
      174 ctgaaaaaa atcatcttgc ccacaggcct gtggcaaaag gataaaaatg tgaacgaagt
                                                                                3660
      176 ttaacattct gacttgataa agctttaata atgtacagtg ttttctaaat atttcctgtt
      178 ttttcagcac tttaacagat gccattccag gttaaactgg gttgtctgta ctaaattata
      180 aacagagtta acttgaacct tttatatgtt atgcattgat tctaacaaac tgtaatgccc
                                                                               3840
      182 tcaacagaac taattttact aatacaatac tgtgttcttt aaaacacagc atttacactg
                                                                               3900
      184 aatacaattt catttgtaaa actgtaaata agagettttg tactageeca gtatttattt
                                                                               3960
      186 acattgcttt gtaatataaa tctgttttag aactgcagcg gtttacaaaa ttttttcata
                                                                               4020
      188 tgtattgttc atctatactt gcatcttaca tcgtcatgat tgagtgatct ttacatttga
                                                                               4080
     190 ttccagaggc tatgttcagt tgttagttgg gaaagattga gttatcagat ttaatttgcc
     192 gatgggagcc tttatctgtc attagaaatc tttctcattt aagaacttat gaatatgctg
                                                                               4140
     194 aagatttaat ttgtgatacc tttgtatgta tgagacacat tccaaagaac tctaactatg
                                                                               4200
     196 ataggteetg attactaaag aagettettt actggeetea atttetaget tteatgttgg
                                                                               4260
                                                                               4320
     198 aaaattttct gcagtcettc tgtgaaaatt agagcaaagt gctcctgttt tttagagaaa
                                                                               4380
     200 ctaaatcttg ctgttgaaca attattgtgt tcttttcatg gaacataagt aggatgttac
                                                                               4440
     202 atttccaggg tgggaagggt aatcctaaat catttcccaa tctattctaa ttaccttaaa
                                                                               4500
     204 tctaaagggg aa
                                                                              4512
     207 <210> SEQ ID NO: 4
     208 <211> LENGTH: 3498
     209 <212> TYPE: DNA
     210 <213> ORGANISM: Artificial Sequence
W--> 211 <220> FEATURE:
     212 <223> OTHER INFORMATION: PCR Primers
W--> 214 <220> FEATURE:
     215 <221> NAME/KEY: CDS
     216 <222> LOCATION: (1)..(3498)
     217 <223> OTHER INFORMATION:
W--> 219 <220> FEATURE:
     220 <221> NAME/KEY: misc_feature
     221 <222> LOCATION: (110\overline{2})...(1102)
     222 <223> OTHER INFORMATION: N is any nucleic acid
W--> 224 <220>
     225 <221> NAME/KEY: misc_feature
     226 <222> LOCATION: (265\overline{0})...(2650)
    227 <223> OTHER INFORMATION: N is any nucleic acid
    229 <400> SEQUENCE: 4
    230 atg tcg ggt cgc cgc tgc gcc ggc ggg gga gcg gcc tgc gcg agc gcc
                                                                                48
    231 Met Ser Gly Arg Arg Cys Ala Gly Gly Gly Ala Ala Cys Ala Ser Ala
    232 1
```

PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:18

Input Set : A:\PTO.VSK.txt

23 23	4 gc	g gc	c ga	g gc	c gt	g ga	g cc	g gc	c gc	c cg	a ga	g ct	g tt	c ga	g gc	g tgc	96
25	U			20					25					30		a Cys	
23	8 cg	c aa	c gg	g ga	c gt	g gaa	a cg	a gto	c aa	g ag	g ct	g gt	q acc	7 001	t gad	g aag	144
24	0	g no.	35	y AS	p va.	I GI	u Ar	g va. 40	ь г	s Ar	g Le	u Va	1 Th	Pro	o Gli	ג Lys	111
24:	2 gt	g aa	c ag	c cg	c gad	c acq	g gcg	g ggd	ago	g aa	a tc	c ac	c cc	cto	T Cad	ctc	192
21.	y u .	r no	n Se	r Ar	g Ası	o Thi	c Ala	Gly	/ Arc	J Ly:	s Se	r Th	r Pro	Lei	, Out	Leu	192
2-1	1	50					55					60					
24	7 Ala	a Ala	- 99 - 61	v Ph	2 61	y Cyc	J dad	gac	gta	gti	t gaa	a ta	t tto	, ctt	cac	, aat	240
248	65	- 111	- 01	y 1110	s GT	70	э гух	s Asp	va.	L Va.		ı Ty	r Leu	Leu	ı Glr	aat Asn	
		i aca	a aa	t ata	r cas			- ~-+	. ~-4		75					80	
251	Glv	/ Ala	a Asi	n Vai	l Glr	Δla	a Cyt	· yaı	. yat	ggg	ggg	ct	t att	cct	ctt	cat	288
252	2	,		· · · ·	85	, VTC	HIC	ASL	ASL	90 917) GT	/ Lei	u lle	Pro		His	
		gea	a ta	e tet		aat	cat	act		90			t ctc		95		
255	Asr	ı Āla	Cv:	s Sei	Phe	Glu	. His	. gcc : Δla	Gli	yua Wal	u gua	aaı	CEC	Ctt	ttg	cga Arg	336
256	5		_	100)	, ,,,	****	, 1110	105	val	. val	. ASI	ı Leu			Arg	
258	cat	ggt	gea	gac	ccc	aat	act	сαа	αat	· aa+	tac	1 221	tat	110			204
259	His	Gly	/ Ala	a Āsp	Pro	Asn	Ála	Ara	Asp	Asr	Trr	, aat	n Tyr	Thr	Dro	Tou	384
~ 00			тт.	,				120					125				
262	cat	gaa	gct	gca	att	aaa	gga	aag	att	gat	att	tac	att	ata	cta	tta	432
200	11173	Glu	ı Ala	a Ala	Ile	Lys	Gly	Lys	Ile	Asp	Val	Cvs	: Ile	Val	T.e.i	T.eu	432
204		130	'				135					140)				
266	cag	cat	gga	gct	gag	cca	acc	atc	cga	aat	aca	gat	, gga	agg	aca	gca	480
207	OTH	1113	Gly	/ Ala	Glu	Pro	Thr	Ile	Arg	Asn	Thr	Asp	Gly	Arg	Thr	Ala	100
200	147					150					155					160	
270	ttg	gat	tta	gca	gat	cca	tct	gcc	aaa	gca	gtg	ctt	act	ggt	gaa	tat	528
272	шец	ASP	ren	и Ата	Asp	Pro	Ser	Ala	Lys	Ala	Val	Leu	Thr	Gly	Glu	Tyr	
		222	ant-	~~~	165					170					175		
275	Lvs	Lve	yac Asn	yaa Glu	Ton	tta	gaa	agt	gcc	agg	agt	ggc	aat	gaa	gaa	aaa	576
276	-,,	270	710p	180	ьец	ьeu	GLU	ser	185	Arg	Ser	GLy	Asn		Glu	Lys	
278	atq	ato	act		ctc	aca	CCa	tta	100	~+ ~	222	.	cac	190			
279	Met	Met	Ála	Leu	Leu	Thr	Pro	Len	Acn	Val	Aac Aan	Crra	His	gca	agt	gat	624
200			190					200					205				
282	ggc	aga	aag	tca	act	cca	tta	cat	tta	gca	gca	ααa	+ -+	220	242	at a	670
	Gly	Arg	Lys	Ser	Thr	Pro	Leu	His	Leu	Ala	Ala	Glv	Tyr	Asn	Ara	yla Vəl	672
204		210					215					220					
286	aag	att	gta	cag	ctg	tta	ctg	caa	cat	qqa	act	a+	gtc	cat	act	aaa	720
	273	Ile	Val	Gln	Leu	Leu	Leu	Gln	His	Ğĺy	Ála	Asp	Val	His	Ala	Lvs	720
200	225					230					235					240	
290	gat	aaa	ggt	gat	ctg	gta	cca	tta	cac	aat	gcc	tgt	tct	tat	aat		768
271	Asp	Lys	Gly	Asp	теп	Val	Pro	Leu	His	Asn	Ala	Cys	Ser	Tyr	Ğĺy	His	, 55
2 7 2					245					250					255		
294	rat m	gaa	gta	act	gaa	ctt	ttg	gtc	aag	cat	ggt	gcc	tgt	gta	aat	gca	816
296	TYL	Giu	vaı	260	GIU	Leu	Leu	Val	Lys 265	His	Gly	Ala	Cys	Val	Asn	Ala	
298	atg	gac	ttg	tgg	caa	ttc	act	cct	ctt	cat	gag	gca	gct	tct	aaq	aac	864
															_		

PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:18

Input Set : A:\PTO.VSK.txt

	300	,		21.	כ				28	0				281	5		s Asn	
	302	age	g gt	t qaa	a ota	a tot	t tet	cti	t ct	· c ·tt:	2 20	+ + >	+ ~~	- ~~			a aca	
	303	Arc	σ Va.	l Ğlı	u Vai	l Cvs	Sei	r T.e.	ı Le	ı To	, 60	c ca ~ m	- gg	e ge	ı ya	. 5	a aca	912
	304		29	0		_ 0,1	, ,,,	29!	5 DC	и пес	. se.	гіу			a Asp	o Pro	o Thr	
					+ +~1								300)				
	307	To	y CC	- aa	Con	c cac	aat	aaa	a ag	t gct	ata	a ga	c tto	g gct	ccc	c aca	a cca	960
	201	THE	теі	ı Ası	ı Cys	s His	Asr	ı Lys	s Se	r Ala	a Ile	e As	p Lei	ı Ala	Pro	Th:	Pro	
	500	50.	,				31()				31	5				220	
	310	cag	g tta	a aaa	a gaa	a aga	ı tta	a gca	a tai	t gaa	a tti	t aa	a ggo	cac	tco	r tta	ctg	1008
	211	GII	ı Leı	ı Lys	3 Gli	ı Arç	, Let	ı Ala	Ty:	r Ğlı	ı Phe	e Lv:	s Glv	His	Sei	7 T.O.	Leu	1000
	312					325	i		_		330			****	, 501	335		
	314	caa	gct	gca	cas	gaa	act	gat	- att	act	Cas	, , ,+,					tct	1056
	315	Glr	ı Āla	a Ála	Arc	Glu	בו ב	Δer	. Val	mb.	. Cyc	. al.	- aac	l aac	Cat	. ctc	Ser	1056
	316				340)		. 1101	, va	7 1111	MIG) TT6	з гу	: гуѕ			Ser	
W>				a+c						345)				350)		
	319	Leu	Clu	Mot	, g	, aat	בבכ	aag	cat	cct	caa	aca	a cat	: gaa	aca	ı gca	ntg	1104
	320	пес	GIU	n Mer	. vaı	. Asn	Pne	гу	His	Pro	Glr	1 Thi	: His	Glu	Thr	: Ala	Xaa	
	320			335)				360)				365				
	322	cat	tgt	gct	gct	gca	tct	cca	ı tat	ccc	aaa	aga	aag	caa	ata	tat	gaa	1152
	323	His	Cys	HIG	Ala	Ala	Ser	Pro	Tyr	Pro	Lys	Arc	ı Lys	Gln	Ile	Cvs	Glu	-102
	724		370	,				375)				3 ጸ በ					
	326	ctg	rttg	cta	aga	aaa	gga	qca	amo	atc	aat	gaa	aad	act	222	~~~	ttc	1200
	327	Leu	Leu	Leu	Arg	Lys	Glv	Āla	Xaa	Tle	Asn	Gli	Lys	Thr	Tuo	Clu	Dha	1200
	328	385			_	-	390				11011	395		1111	гу	GIU		
				cct	cta	Cac			+ 0+	~~~		390	cat				400	
	331	Leu	Thr	Pro	T.e.ii	Hie	77-1	71.	Com	gay	aaa	get	cat	aat	gat	rtt	gtt	1248
	332			110	пси	405	val	Ата	ser	GIU			His	Asn	Asp		Val	
		m==	at a	~+~	~+-						410					415		
	332	Clu	yıa	gra	grg	aaa	cat	gaa	gca	aag	gtt	aat	gct	ctg	gat	aat	ctt	1296
	336	GIU	vaı	vaı	Val	ьуs	His	Glu	Ala	Lys	Val	Asn	Ala	Leu	Asp	Asn	Leu	
	220				420					425					130			
	338	ggt	cag	act	tct	cta	cac	aga	gct	gca	tat	tgt	ggt	cat	cta	caa	acc	1344
	555	Gly	Gln	Thr	Ser	Leu	His	Arg	Ala	Ala	Tyr	Cvs	Gly	His	Leu	Gln	Thr	1011
	340			433					440					445				
	342	tgc	cgc	cta	ctc	ctq	agc	tat	aaa	tat	σat	cct	aac	2++	a+ a	+ 00	att	1202
	343	Cys	Arg	Leu	Leu	Leu	Ser	Tvr	Glv	Cvs	Asn	Pro	Asn	Tlo	Tla	Com	Tan	1392
	344		450					455	1	0,0	1100	110	460	TIE	TIE	ser	ьец	
	346	caq	aac	ttt	act	act	tta		ata	aas	22+	~	aat					
	347	Gln	Ğĺv	Phe	Thr	Ala	T.All	Gla	Mot	Cl	7	gaa	Asn	gta	cag	caa	ctc	1440
	348	465	1			1114	470	GIII	Met	сту	ASII		Asn	vaı	GIn	GIn		
			Caa	~~~	aat	2+4	470					475					480	
	351	Lou	Cln	Clu	991	alc	cca	tta	ggt	aat	tca	gag	gca	gac	aga	caa	ttg	1488
	J J I	neu	GIII	GIU	сту	тте	Ser	Leu	GLY	Asn	Ser	Glu	Ala	Asp	Arg	Gln	Leu	
	J J Z					400					490					105		
	354	ctg	gaa	gct	gca	aag	gct	gga	gat	gtc	gaa	act	gta	aaa	aaa	cta	tat	1536
	JJJ .	Leu	Glu	Ala	Ala	Lys	Ala	Gly	Asp	Val	Glu	Thr	Val	Lvs	Lvs	Leu	Cvs	2000
	550				500					505					510			
;	358	act	gtt	cag	agt	gtc	aac	tac	аσа	gac	att	паа	ggg	cat	020	+ <+	202	1504
:	359 '	Thr	Val	Gln	Ser	۷al	Asn	Cvs	Ara	Asn	Tla	Glu	Gly	Dyc Dra	cay c15	60-	aud mh	1584
:	360			515		_		٠,٠	520			JIU	g T À	ura.	GTII	ser	rnr	
		cca	ct+		+++	uc a	act	aaa		222	2~-			525				
-	363 1	Pro	I.e.ii	Hie	Dha	Nlα	90L 71~	999	ma	adC	aga	gtg	tcc	gtg	gtg	gaa	tat	1632
•		0	u	1173	T.116	MIG .	ита	стА	ryr	Asn	Arg	Val	Ser	Val	Val	Glu	Tyr	

RAW SEQUENCE LISTING ERROR SUMMARY PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:19

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\05192003\J019980B.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 1124,2672
Seq#:4; N Pos. 1102,2650

Seq#:4; Xaa Pos. 368,392,415,558,559,764,884 Seq#:5; Xaa Pos. 368,392,415,558,559,764,884 VERIFICATION SUMMARY
PATENT APPLICATION: US/10/019,980B

DATE: 05/19/2003 TIME: 15:05:19

Input Set : A:\PTO.VSK.txt

Output Set: N:\CRF4\05192003\J019980B.raw

L:6 M:283 W: Missing Blank Line separator, <120> field identifier L:8 M:283 W: Missing Blank Line separator, <130> field identifier L:9 M:283 W: Missing Blank Line separator, <140> field identifier L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date L:15 M:283 W: Missing Blank Line separator, <160> field identifier L:17 M:283 W: Missing Blank Line separator, <210> field identifier L:21 M:283 W: Missing Blank Line separator, <220> field identifier L:32 M:283 W: Missing Blank Line separator, <220> field identifier L:43 M:283 W: Missing Blank Line separator, <220> field identifier L:90 M:341 W: (46) " \tilde{n} " or "Xaa" used, for SEQ ID#:3 after pos.:1080 M:341 Repeated in SeqNo=3 L:211 M:283 W: Missing Blank Line separator, <220> field identifier L:224 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:4,Line#:217 L:318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:1056 M:341 Repeated in SeqNo=4 L:531 M:283 W: Missing Blank Line separator, <220> field identifier L:669 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:352 M:341 Repeated in SeqNo=5 L:881 M:283 W: Missing Blank Line separator, <220> field identifier L:892 M:283 W: Missing Blank Line separator, <220> field identifier L:903 M:283 W: Missing Blank Line separator, <220> field identifier L:914 M:283 W: Missing Blank Line separator, <220> field identifier L:925 M:283 W: Missing Blank Line separator, <220> field identifier